



GB04/2538



INVESTOR IN PEOPLE

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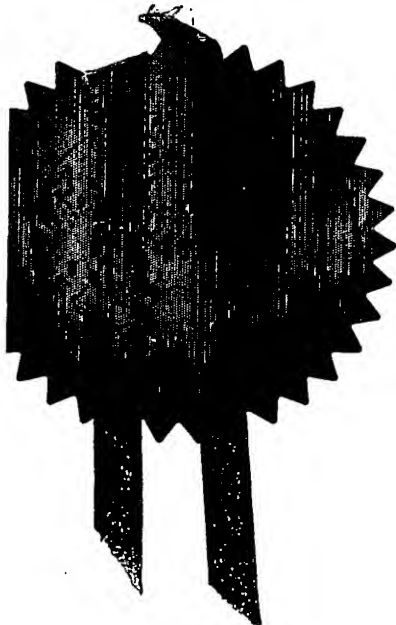
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I also certify that the application is now proceeding in the name as identified herein.

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Signed

JB Evans

Dated 14 September 2004



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GB 0313848.4

By virtue of a direction given under Section 30 of the Patents Act 1977, the application is proceeding in the name of:

UNIVERSITY OF LANCASTER,
University House,
Bailrigg,
LANCASTER,
LA1 4YW,
United Kingdom

Incorporated in the United Kingdom,

[ADP No. 00798298001]

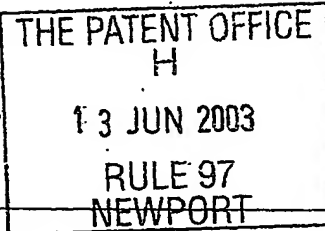
Patents Act 1977
(Rule 16)



16JUN03 E815230-3 B12663
P01/7700 0.00-0313848.4

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)



The Patent Office

Cardiff Road
Newport
South Wales
NP10 8QQ

1. Your reference

2. Patent application number
(The Patent Office will fill in this part)

0313848.4

13 JUN 2003

3. Full name, address and postcode of the or of each applicant (underline all surnames)

James Allan Hudson
Flat 20 Bowland College
Lancaster University
LA1 4YT 11/8/04
8652851001

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

4. Title of the invention

Gesture Optimised list interaction

5. Name of your agent (if you have one)

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

IRRAWATT BYKES + LORD LLP
TOWER NORTH CENTRAL
MERRION WAY
LEEDS
LS2 8PA

Patents ADP number (if you know it)

F51/27 11/8/04

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
 - b) there is an inventor who is not named as an applicant, or
 - c) any named applicant is a corporate body.
- See note (d))

No

Patents Form 1/77

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Continuation sheets of this form

Description 2

Claim(s)

Abstract

Drawing(s) 1 + 1

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10. If you are also filing any of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

Request for substantive examination (Patents Form 10/77)

Any other documents (please specify)

11. I/We request the grant of a patent on the basis of this application.

Signature

Date

12-6-03

12. Name and daytime telephone number of person to contact in the United Kingdom

01524 592573

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Overloaded and gesture optimised list based interaction.

This approach incorporates the use of mouse stroke gesture activated list elements 8. For the use on web sites, applications and other styles of computer interfaces, such as PDA's and mobile phone. Rather than the conventional point or select and click approach the user executes a mouse stroke gesture or otherwise, such as with the use of a touch screen where a trace of the figure stroke is executed. The approach uses hand writing recognition or similar algorithm to parse the gesture into a specific letter, number etc or command.

This approach differs from other gesture optimised approaches that use gestures to optimise the functionality of icons (Overloaded or otherwise) or menu items (menu icons) This approach proposes the optimisation of list based interaction, commonly found in mobile phones.

In the description an example of a mobile phone is used. In the context of searching for a phone number the user could execute an "L" 3 stroke listing all elements that begin with the letter "L", this could be executed over an enlarged button 7, perhaps with "name" on it, this button will accept a click that will execute the more common dialogue that is associated, such as "Search", "Add name", whereas a gesture will list the elements. This approach thus supports the old style of point and click interaction and the newer form as described. Another enlarged button could be used to either access control dialogues, perhaps with "menu" on it. As before supporting gestures for easy access of frequent commands and click interaction for less used actions.

Here we discuss the main feature, the execution of gestures on list elements to control list based interaction rather than using a keyboard or simply a gesture panel as in the diagram 7. After listing all elements beginning with "L" one side of the display with the listing of items beginning with "L" is designated for a further refined search 5. And the other side is used to execute commands 4. A simple click on a list item 8 will call up a standard dialogue with the usual commands, expected, such as, "Edit name", "Add number", "Delete number" & etc., For example the execution of n. "C" 5 which starts or perhaps ends on a list item on one side of the display would further refine the search to all elements containing an "L" and a "C" for example "Lucy". Whereas, the execution of a "C" which starts or perhaps ends 4 on a list item on the other side of the touch screen display would summon the command to connect a call, or a "V" which starts or perhaps ends would list the detail pertaining to that number. Optional optimisation: In addition to the concept, the initial screen would have a list of phone number elements that can be connected to with one or two click depending on settings or with the use of the appropriate gesture access dialogues or commands related to that list item and subsequent entry. This approach could also use Layers 1,2. Layered on top of a lists element would be a dynamic images¹, which act as layered icons 1,2. A (double) click over a phone number element 8 activates a connection to that number whereas, a gesture command related to the list of phone number layer will execute a related command, such as "E" executing the gesture to load up the edit item dialogue. A gesture related to the Dynamic layer will activate a command related to the overlaid. For example an overlaid layer of an animated envelope could represent commands related to "Text messaging" and other related activities. A "c" gesture could active a dialogue to "compose" a text message or an "I" gesture could be used to view messages in the "Inbox" and so on. Thus permitting the optimisation and overloading of screen real-estate.

The benefits of this approach are to preserve screen real- estate by reducing the need for or temporarily doing away with a screen consuming display dialogue i.e. a keyboard, suggesting and permitting a screen the size of the device. The approach reduces the size of a device by relieving the necessity for a hardware keyboard.

The execution of gestures is less cognitively demanding than the excessive use of hand eye coordination for primarily button and key activation. It could also be argued that gesture

¹ The dynamic or animation is to maintain the coherency of the image making the background and foreground images mutually anti-occluded or mutually discernable

interaction possesses more of a cognitive purchase, permitting the user more of a handle or affordance for the actions and intentions.

To search for a (not optimised for quick access) random number with a conventional mobile could take 14+ clicks (executions) depending on the size of a list beginning with the specified letter. The worst-case scenario for the gesture optimised list interaction is three to four mouse stroke interactions.

Figure 1 shows a possible layout of the interface on a mock-up of a PDA style phone, with two animated and dynamic images 1,2 layered on top of the list driven interface, and a selected gesture interaction button (bottom right of image) in this case entitled "Names"7 with a gesture executed on the gesture interaction button 3

Figure 2 show the gesture interaction panel, in this case entitled "exit" with a "C" gesture executed on it 6 and a selected list item 8 with two gestures executed on either side, one for a command 4 and one for a refined search 5, which could be executed anywhere on that side of the display.

1/1

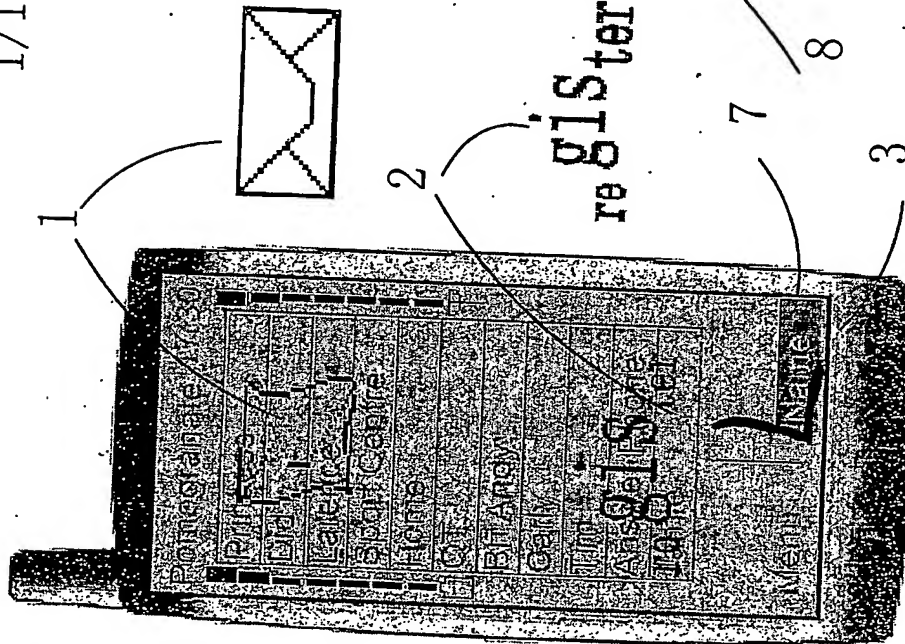


Fig1

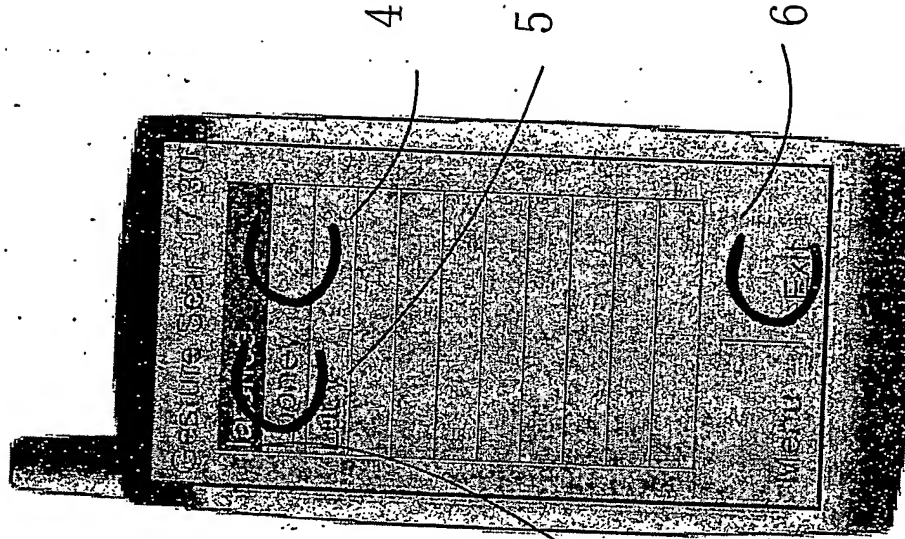


Fig2

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